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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,565	12/05/2003	Ronald Earl Uschold	FL0224USNA	8916

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EXAMINER

HU, HENRY S

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,565

Applicant(s)

USCHOLD ET AL.

Examiner

Henry S. Hu

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Election of April 28, 2005.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
4a) Of the above claim(s) 1-21 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 22-30 is/are rejected.
7) ☒ Claim(s) 26 is/are objected to.
8) ☒ Claim(s) 1-30 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2 pages.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the faxed Election filed on April 28, 2005.

Applicant's election of Group III (Claims 22-30) with traverse is acknowledged. The traversal is on the ground(s) that it would not place an undue burden to search and examine the non-elected Group I (Claims 1-10) and Group II (Claims 11-21) with the elected Group III since they are so closely related in the field of fluoropolymer sealant. This is not found persuasive because each of Groups I, II and III is drawn to a technology apparently requiring search in different classification area. In the instant case Group I was drawn to a heat sealable tape comprising a PTFE copolymer, Group II was drawn to different invention as a seam formed from two sheet materials comprising the PTFE copolymer on each sheet surface, while Group III was drawn to a different invention as a process for sealing a seam between two sheet materials comprising the PTFE copolymer on each sheet surface.

As discussed earlier, all inventions may have contained the same fundamental PTFE copolymers to be functional as a sealant; **they are quite different in the form as a composition or a process due to the presence or absence of other process steps or additive components.**

It is noted that a seam used in Group II is not necessary to be a tape, and the process of making is unique and thereby not interchangeable. Therefore, the scope of the claims, i.e., the metes and boundaries are distinct.

Art Unit: 1713

The requirement is still deemed proper and is therefore made **FINAL**. In summary, this application contains original **Claims 1-21**, which is drawn to an invention non-elected with traverse. A complete reply to the final rejection must include **cancellation of non-elected claims** or other appropriate action (37 CFR 1.144) See MPEP § 821.01. **Claims 1-30 are now pending**, while the nonelected **Claims 1-21** are withdrawn from consideration. An action follows.

Specification

2. The disclosure is objected to because of the following informalities:

(a) On **page 4** at line 27, recitation of “monochlorotrifluoroethylene” may be improper according to traditional wording on “**CTFE**” used in the art. A change to its common name as “**chlorotrifluoroethylene**” is needed since ethylene can have only four bonding groups.

(b) On **page 14** at line 19, recitation of “perfluoro(ethylvinyl ether)” may need to change to “**perfluoro(ethyl vinyl ether)**” with a space between ethyl and vinyl to be consistent with the same wording used on page 4 at line 28 as well as page 2 at line 6.

Appropriate corrections for (a) and (b) are required.

Claim Objections

Art Unit: 1713

3. Claim 26 is objected to because of the following informalities:

On **Claim 26** at line 1, a claim dependency to “**claim 25**” is needed since said heating element is from Claim 25 only.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. *The limitation of parent Claim 22 relates to a process for sealing a seam between two sections of sheet material wherein each section has at least one fluoropolymer surface, said process comprising: (A) forming a band of heat sealable composition comprising a copolymer of tetrafluoroethylene and at least about 15% by weight of a highly fluorinated monomer, said copolymer having a melt viscosity of no greater than about 1000 Pa.S at 372°C and an application temperature of no greater than about 250°C; (B) positioning said band over said seam between said two sections of sheet material such that said heat sealable composition contacts one fluoropolymer surface of each section; (C) heating said band to a temperature no greater than 250°C sufficient to seal said seam; and (D) allowing said heat sealable composition to cool. See other limitations of dependent Claims 23-30.*

Art Unit: 1713

6. Claims 22-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Krause et al. (EP 0,002,894 A2).

Regarding the limitation of parent **Claim 22**, Krause et al. have disclosed a process for joining together two sheets of non-melt-processable organic polymer such as tetrafluoroethylene homopolymer (PTFE), said method comprising four steps as following: (A) **obtaining a melt-processable fluoropolymer** selected from polychlorotrifluoroethylene, polyvinylidene fluoride, a copolymer of ethylene and chlorotrifluoroethylene, and **fluorinated ethylene/propylene copolymer (FEP)** (page 5, line 9-16), (B) **contacting and then stitching a strip of melt-processable copolymer** from (A) **onto the surface of the non-melt-processable polymer sheet(s) such as polytetrafluoroethylene** (page 6, line 21-27), (C) **heating to fuse the melt-processable copolymer from (A) with a temperature lower than melting point of the non-melt-processable polymer** (page 6, line 2-12), and (D) **cooling** to room temperature (page 10, line 30).

It is noted that **FEP copolymer is melt-processable** as disclosed by Krause (page 13, line 8-11) and such a fluoropolymer is both **“structurally and inherently”** reading on the limitation on “a copolymer of tetrafluoroethylene and at least about 15% by weight of a highly fluorinated monomer, said copolymer having a melt viscosity of no greater than about 1000 Pa.S at 372°C and an application temperature of no greater than about 250°C”. It is also noted that “contacting and then stitching” on step (B) is fundamentally equivalent to “positioning” in second step of Claim 22 which the language of “the process comprising” is used on line 3. It is

Art Unit: 1713

further noted that the use of PTFE homopolymer sheet(s) as substrate is reading on “each section of the two sheet material has at least one fluoropolymer surface”.

7. Regarding **Claims 23-25 and 28**, the step (B) by contacting and then stitching a strip of the melt-processable copolymer from (A) onto the surface of the polytetrafluoroethylene sheet(s) read on the limitations of Claims 23-25 and 28 (page 6, line 28-31; page 7, line 15-26). It is noted that the stitching is functionally equivalent to using a tape. It is noted that PTFE sheet is used as a carrier sheet to carry FEP.

Regarding **Claims 26 and 27**, the fusing step (C) may be accomplished by the application of both heat and pressure, wherein the convenient pressure is about 10 lb/sq in with a maximum temperature up to 300 °C (page 6, line 2-4 and 15-17; page 10, line 25-26).

Regarding **Claims 29 and 30**, the statement disclosed on page 5 at lines 17-26 is reading on the limitations of Claims 29 and 30. Particularly, the PTFE sheets may be brought together so that one sheet slightly overlaps the other on lines 21-22.

8. Claims 22-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Adiletta (US 4,865,903).

Regarding the limitation of parent **Claim 22**, **Adiletta** has disclosed specifically with the architect of Figure 1 (see brief description on column 3 at lines 53-59) a process for joining

Art Unit: 1713

together two film-sheets of non-melt-processable organic polymer such as tetrafluoroethylene homopolymer (PTFE) (as component #13), said method comprising four steps as following: (A) **obtaining a melt-processable fluoropolymer** (as component #14) selected from **fluorinated ethylene/propylene copolymer (FEP)** and the like (column 2, line 18-34; column 5, line 50-58), (B) applying **a coating of melt-processable or thermoplastic copolymer** from (A) onto of **both surfaces the non-melt-processable polymer film-sheet(s) such as polytetrafluoroethylene; or onto both surfaces of the fabric substrate** (as component #11), (C) positioning the composite structure **as Figure 1**, (D) heating to fuse the melt-processable copolymer from (A) with a temperature lower than melting point of the non-melt-processable polymer, and (E) cooling to room temperature (column 7, line 30 – column 8, line 62; column 9, line 14-20; also see working **examples 1-2**).

It is noted that **FEP copolymer is melt- processable or thermoplastic** as disclosed by Adiletta and such a fluoropolymer is both **“structurally and inherently”** reading on the limitation on “a copolymer of tetrafluoroethylene and at least about 15% by weight of a highly fluorinated monomer, said copolymer having a melt viscosity of no greater than about 1000 Pa.S at 372°C and an application temperature of no greater than about 250°C” (column 5, line 50-58). It is further noted that the use of PTFE homopolymer sheet(s) or fabric substrate as substrate to carry FEP is reading on “each section of the two sheet material has at least one **fluoropolymer surface**”.

Art Unit: 1713

9. Regarding **Claims 23-25 and 28**, the use of above-mentioned step (B) and step (C) together read on the limitations of Claims 23-25 and 28. It is noted that fabric or PTFE film-sheet is used as a carrier sheet to carry FEP.

Regarding **Claims 26 and 27**, the fusing step (D) may be accomplished by the application of both heat and pressure, wherein the convenient pressure is about 1.0-25.0 psi with a maximum temperature up to 550 °F (column 7, line 65 – column 8, line 11; column 4, line 5-8).

Regarding **Claims 29 and 30**, the architect disclosed on Figure 2 is reading on the limitations of Claims 29 and 30. Particularly, the PTFE sheets may be brought together so that one sheet slightly overlaps the other.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to a process for sealing a seam between two sections of sheet material wherein each section has at least one PTFE copolymer surface:

US Patent No. 5,266,639 to Chapman et al. discloses the preparation of various copolymers of tetrafluoroethylene (TFE) and hexafluoropropylene (HFP) having high HFP content and end-of-melting temperature as low as 200 °C (abstract, line 1-4). The

Art Unit: 1713

application to use such a copolymer as melt adhesive is disclosed (column 10, line 11-17; column 11, line 61-62; column 15, line 57 – column 16, line 8). However, Chapman does not teach or fairly suggest apply it to seal a fluorinated/surfaced seam. Therefore, Chapman fails to teach or fairly suggest the limitation of present invention.

11. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Henry S. Hu whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306 for all regular communications. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Henry S. Hu

Patent Examiner, Art Unit 1713, USPTO

May 10, 2005



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